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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,286	06/20/2003	Guillermo C. Bazan	86037/8146	8166

7590 05/31/2006

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EXAMINER

RILEY, JEZIA

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,286

Applicant(s)

BAZAN ET AL.

Examiner

Jezia Riley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 3-5, 14, 17, 23, 24 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-13, 15, 16, 18-22, 25, 26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/3/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election with traverse of Group I in the reply filed on 4/18/06 is acknowledged. Applicant has not given any reasons. But as mentioned in the restriction requirement mailed on 3.13.06, the invention of Group II can be used for PCR or as antisense in a therapeutic assay for example. Based on species election the elected claims are claims 1, 2, 6-13, 15, 16, 18-22, 25, 26, 28-30.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 2, 6-10, 12, 13, 15, 16, 18-22, 25, 26, 28 are rejected under 35 U.S.C. 102(a) as being anticipated by Gaylord et al. (PNAS, August 20, 2002, vol. 99, no.17, page 182).

Gaylord discloses an assay method comprising providing a target DNA, providing a polycationic multichromophore, a sensor PNA, and a chromophore. The assay comprising contacting the target with PNA strand labeled with a fluorescein. The ssDNA hybridizes to PNA. And detecting whether light is emitted from the signaling chromophore. And allowing detection of target at concentrations of 10pM. The multichromophore is a conjugated polymer (scheme 2) identical to the formula 1 and 2

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of instant claims 7 and 8. The maximum in Fret ratio corresponds to a near 1:1 ratio multichromophore to PNA strands (page 183). The presence of organic solvent decreases hydrophobic interaction (page 184). PNAs also have the ability to form triplex with double stranded DNA. The concept of the assay could be used in PCR analysis (page 185).

The rejection can be overcome by submission of a specific declaration by the applicant establishing that the article is describing applicant's own work. In re Katz, 687 F.2d 450, 215 USPQ 14 (CCPA 1982).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1, 2, 6-13, 15, 16, 18-22, 25, 26, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaylord et al. (PNAS, August 20, 2002, vol. 99, no.17, page 182) in view of Weiler (Nucleic Acids Research, 1997, Vol. 25, No.14 pp. 2792-2799).

Gaylord discloses an assay method comprising providing a target DNA, providing a polycationic multichromophore, a sensor PNA, and a chromophore. The assay comprising contacting the target with PNA strand labeled with a fluorescein. The ssDNA hybridizes to PNA. And detecting whether light is emitted from the signaling chromophore. And allowing detection of target at concentrations of 10pM. The multichromophore is a conjugated polymer (scheme 2) identical to the formula 1 and 2 of instant claims 7 and 8. The maximum in Fret ratio corresponds to a near 1:1 ratio multichromophore to PNA strands (page 183). The presence of organic solvent decreases hydrophobic interaction (page 184). PNAs also have the ability to form triplex with double stranded DNA. The concept of the assay could be used in PCR analysis (page 185).

Weiler et al discloses arrays of up to some PNA oligomers for hybridization assays. For hybridization studies mostly PNA grids of 384 or 576 different sequences were generated. The length varied between 5 and 16 bases (abstract and page 2795, for example).

Therefore it would have been obvious at the time the invention was made to one of ordinary skill in the art to perform the assay of Gaylord on PNA arrays as described by Weiler. The motivation is that PNA arrays form powerful tools for hybridization based

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DNA assays due to favorable features of the PNA molecules. Hybridization followed the Watson-Crick base pairing rules with higher duplex stabilities than on corresponding DNA oligonucleotides sensors. (abstract, and pages 2795-2796 bridging paragraph).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 571-272-0786. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thursday, May 25, 2006



JEZIA RILEY
PRIMARY EXAMINER